

Response:

(1) Applicants acknowledge Examiner's withdrawal of the rejection of the claims as being anticipated by Ekpenu, et al.

(2) Applicants acknowledge the Examiner's holding of the restriction requirement as final. Applicants continue to assert that the restriction is improper for the reasons stated in Applicants' response of April 12, 2007. Applicants also assert their right to file a divisional application directed to all restricted claims.

(3) Applicants acknowledge the Examiner's rejection of claims 11, 20, 31, 38 and 40 under 35 U.S.C. §112, first paragraph. The Examiner asserts that the recitation of "a non-hydrolyzed extract" in claims 11 and 30 lack antecedent basis and constitute new matter. Applicants respectfully and strongly disagree with the Examiner's position that "there is not sufficient support for the new aforementioned genera/genus to preclude compositions that are not a "non-hydrolyzed extract." The specification is explicit in its disclosure of the Material and Methods, Preparation of Test Materials, Antifungal tests, In vitro Antileishmanial Activity, the strains of Leishmania tested, the RAM Drug Test Procedure, the Bioassay-directed fractionation of Napoleonaea imperialis, et al. See

specification, pages 9+. There is no disclosure of any hydrolysis step to obtain the extract per the present invention. Thus, the Examiner's position that the explicit omission of "non-hydrolyzed extract" infers "hydrolyzed extract" is incorrect.

If one were to consider the Examiner's position to its fullest extent, the "hydrolyzed extract" would also have to have been explicitly stated. The Applicants' omission of "hydrolyzed extract" is intentional, as the invention is not directed to hydrolysis. The reasons for the lack of a hydrolysis step are further discussed in Dr. Okunji's Rule 132 affidavit submitted December 20, 2006. See page 7, lines 6+ of the affidavit. In view of the specification and the affidavit, it is clear that Applicants do not disclose hydrolysis of the extract. The present amendment to the claims further clarifies the subject matter of the present invention. Support for the amendment to claim 1 can be found on pages 10-11, page 15, line 11+, and page 17, lines 20+ of the specification. Support for the amendment to claim 11 and 30 can be found on page 15, line 5+. Claim 40 has been cancelled.

(4) Claims 1, 11, 12, 30, 31, 38 and 40 were rejected as being anticipated by Kapundu et al.

The Examiner asserts that the Rule 132 affidavit submitted by Dr. Okunji was considered and not found persuasive. The Examiner states that the Applicants' arguments were unpersuasive for the following reasons:

(a) "Kapundu clearly teaches a methanol extract from powdered seeds of *Napoleonaea imperialis*;"

(b) "Kapundu expressly teaches that the methanolic powdered seed extract of the claim designated plant comprises saponin;"

(c) "While Kapundu does teach identification of compounds contained therein the methanolic seed extract, thus necessitating a hydrolysis step of the extract, such disclosure by Kapundu does not negate the fact that Kapundu expressly teaches a methanolic extract obtained from powdered seeds of the claim-designated plant containing a saponin fraction therein;"

(d) "Kapundu does not expressly teach that the prior art methanolic plant extract has biological activity per se, biological activity is inherent to the extract taught by Kapundu because the source of the plant, the particular plant material from the source plant, and the solvent used in the making of the plant extract taught by Kapundu are one and the same as....claimed by Applicant;" and

(e) "antileishmanial activity extract of the methanolic extract of powdered seeds of *Napoleonaea imperialis* taught by

Kapundu is inherent to the referenced extract, absent evidence to the contrary.

The Examiner's rejection is respectfully traversed. The Examiner's positions designated as (a), (b) and (c) above indicate reasoning based on the narrow interpretation of product-by-process claims. *In re Thorpe*, 777 F.2d 695 (Fed. Cir. 1985), defines the need for product-by-process claims "to enable an Applicant to claim an otherwise patentable product that resists definition by other than the process by which it is made. For this reason, even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself." See *Thorpe* at 9. Thus, it is the Examiner's position that, even though Kapundu, et al's, methodology is distinguished from that of the present invention, the similarity of an intermediate step of Kapundu, et al., to the final step of the present invention are sufficient grounds to establish that the isolate taught by Kapundu, et al., anticipate the extract recited in the present claims.

The Examiner is in error on two grounds. Firstly, no product-by-process claims are recited in the present application. The steps by which the present are patentably novel and unobvious, and the extract produced therefrom, are biologically active, therapeutic compounds that have been shown to have efficacy against leishmania. The specification of the

present invention is very explicit in its disclosure of the process by which the extract of the present invention is obtained. Furthermore, the specification is equally explicit in the compounds that are extracted and their efficacies. No such disclosure is made by Kapundu, et al. To reiterate, Applicants' Rule 132 affidavit states that the adopted hydrolysis of Kapundu, et al., incurs "significant concerns such as artifacts formation, not being able to obtain genuine aglycone, possibility of epimerization transformation, etc." See page 7 of the affidavit. These concerns cannot be dismissed as "obvious" or "anticipated" as they impact the very bio and therapeutic activity sought by the present application.

Secondly, the 132 affidavit provided by Dr. Okunji very specifically states that "investigators were chemists and therefore more interested on the chemistry of this plant rather than their biological or therapeutic properties. Secondly. . . Kapundu [did not] screen[] for biological or pharmacological activities of the constituents of this plant. . . . It is remarkable to note that [Kapundu] worked on the hydrolyzed products instead of the intact plant constituents (saponins)" See 132 Affidavit, page 3-4. Thus, Kapundu, et al., may obtain an intermediate solvent extract, but it is not directed to utilizing the extract in the manner of the present claims. This is a patentable distinction, as the methodology in Kapundu, et

al., cannot lead to the same isolate as the present invention, and the difference in the Kapundu, et al., methodology is patentably distinct from that of the present invention. Thus, mere mention of a common step cannot anticipate the present claims if the products obtained therefrom are distinct.

With respect to arguments (d) and (e) above, Applicants respectfully traverse the Examiner's position. Examiner has failed to prove her burden that Kapundu, et al., anticipate the present claims by inherently teaching biological activity and antileishmanial activity. Kapundu, et al., do not disclose any biological activity, let alone activity against leishmania. It is the Applicants who disclose biologic activity and specific efficacies against leishmania. Thus, the Examiner is utilizing the Applicants' own disclosure to support her rejection of the claims. The Examiner is no doubt aware that, in the absence the admission by Applicants that the matter disclosed in the specification is prior art, such a rejection is impermissible.

(5) The Examiner also states that the Rule 132 affidavit is unpersuasive. The Examiner states that "The Office appreciates Dr Okunji's discussion of the distribution, isolation and identification of saponins in plants." However, the Examiner provides no statements or assertions as to why Dr Okunji's statements are unpersuasive. A mere statement that an affidavit

is unpersuasive is insufficient to meet the Examiner's burden. Dr. Okunji's statements have direct bearing on the scope of the work and state of the prior art at the time of the present invention. It is particularly relevant that the Kapundu group were not considering biological or therapeutic activity. In the absence of this significant factor, Kapundu, et al., cannot have anticipated the present invention. The Examiner's statement that a partial process for the isolates disclosed by Kapundu, et al., provides sufficient anticipatory evidence of biological and therapeutic activity in the extract claimed by the Applicants is contradictory to the substantive discourse of the patentably distinguishable features of the present invention.

Furthermore, Dr. Okunji is a leading pharmocognosist. His affidavit provides an extensive and in-depth analysis of saponin extraction, the relevance of source in the extraction process and the problems associated with hydrolysis as disclosed by Kapundu, et al. These distinctions provide substantive supportive evidence of the unanticipated and unobvious claimed subject matter of the present invention. Applicants strongly disagree with the Examiner's dismissive stance with respect to the significance of the affidavit and its relevance to the Kapundu, et al., reference. Applicants respectfully request that this evidence be given its full force.

To that end, it is the Applicants' position that the Examiner has not met her burden in her holding of the claims of the present invention as being anticipated by Kapundu, et al. Therefore, Applicants respectfully request that the rejection of the claims be withdrawn and the application be put in condition for allowance.

The Examiner is respectfully requested to send all correspondences to: Elizabeth, Arwine, Esq.; Office of the Staff Judge Advocate; U.S. Army Medical Research & Materiel Command; 504 Scott Street, Fort Detrick, Maryland 21702-5012; Attn: MCMR-JA (Ms. Arwine).

Please direct any questions regarding this case to Ms. Abanti Bhattacharyya, Esq. at (410) 964-9553.

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Date

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